Software Requirements Specification

for

Online Voting System

Version 1.0 approved

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Revision History

Name	Date	Reason For Changes	Version

1. Introduction

1.1 Purpose

Online Voting System is a system which enables all citizens to cast their vote online. The purpose is to increase the voting percentage across the country, as in the present system people have to visit the booth to cast their vote and those people who live out of their home town are not able to cast vote during the elections. So due to this the voting percentage across the country is very less. Through this software those people who live out of their home town will also be able to cast their votes as this system is online.

1.2 Document Conventions

Font used: Time New Roman
Font size: 12
This document follows IEEE format. Normal text is in Time New Roman with Font size 12. Bold-faced text has been used to emphasize section and subsection heading.

1.3 Intended Audience and Reading Suggestions

The intended audience of this document is the potential end user. The document may also serve as a reference guide to the developers of the system.
the rest of the document is organised as follows:

- Section 2 gives a generic description of the project
- Section 3 enlists the external interface requirements
- Section 4 gives the various system features
- Section 5 lists out the non-functional requirements

1.4 Product Scope

The software produced will be an online voting system.
The main objective of this software is to increase the overall voting %.
It will maintain the database of all the eligible citizens and candidates.
It will manage all the account details of the voters such as citizen name, date of birth, their constituency area, region, state, login id and password of the voter from one central location.

1.5 References

1. IEEE Standards Description: 830-1998
2. Software Engineering –Robert Pressman
3. Database System Concepts-Korth

2. Overall Description

2.1 Product Perspective

The software product is a standalone system and not apart of a larger system. The system will be made up of two parts, one running visible directly to the administrator on the server machine and the other visible to the end users, in this case the voters, through web pages. The two users of the system, namely the voters and the admin interact with the system in different ways. The admin configures the whole system according to it's needs on the server where the system is running. The voters cast their votes using the web interface provided. These votes are accepted by the system on the server.

2.2 Product Functions

On the Admin side, the system can be used to create/update/delete the election details (posts, candidates, electoral rolls etc). The Admin should be able to specify the different attributes it wants for posts/candidates of a particular election instance and voters.
From the voter's perspective, the system is used to help them cast their votes and after the elections are over, allow them to view the results, which are automatically posted on the same site after the election duration is over.

2.3 User Classes and Characteristics

The users can be divided into two main classes:

– The Admin: They manage the entire Voting System Software and Conduct the Elections. They act as the Election Authority.

– The Voters: The voters should have a basic knowledge of how to use a web browser and navigate through web pages. The voters should be aware that they have to keep their user-id and password confidential.

2.4 Operating Environment

Operating Environment for Online Voting System is listed below:

- client/server system
- operating system: windows
- database: MySQL database
- platform: php

2.5 Design and Implementation Constraints

- GUI is only in English.
- This system is working for single server.
- Limited to HTTP/HTTPS.
- User should have basic knowledge of computer.

2.6 User Documentation

The product will include a user manual. The user manual will include product overview, complete configuration of the required software and hardware,technical details and contact information which will include email address.

2.7 Assumptions and Dependencies

- The end user should have a basic knowledge of English and computer usage.
- Administrator is created in the system already.
- The voting results will be managed and calculated by the admin.
- Roles and tasks are predefined.

3. External Interface Requirements

3.1 User Interfaces

- **Voters:** The citizens of the country who are eligible for casting vote.

  Register for Online Voting System – Those who already have voter id, they will register themselves for online voting system and they will use their voter id as their username and separate password will be used for secure authentication.

Cast vote – The citizens will cast their votes for their favourite candidates online through secure system.

View own details – The voters will view their own details which they filled up at the time of their registration.

3.2 Hardware Interfaces

- windows
- a browser which supports CGI,HTML and javascript

3.3 Software Interfaces

The poll server runs on http server that is enabled to handle server pages (eg. Apache Tomcat for support jsp). It uses a relational database to keep track of the polls, which it connects through standard database connectivity interfaces. In order to run the setup software, the environment needs to have a JVM running on it.
Following are the software used for online voting system:

Operating System	I have chosen windows operating system for it's good supports and best user friendliness.
Database	I have chosen MySQL database to record candidate related data and voter related data.
php and JavaScript	I have chosen php and js language to implements the project because it is more interactive.

3.4 Communications Interfaces

This project supports all types of web browsers. here we are creating a simple online voting system through which voters can choose their candidate.

4. System Features

Some Performance requirements identified is listed below:

- The database shall be able to accommodate a minimum of 1,000 records of Users.
- The software shall support use of multiple users at a time.
- There are no other specific performance requirements that will affect development.

4.1 Registration

4.1.1 Description and Priority

This feature is of the highest priority, each of the users ie : the voter with a login Id and password will allow to register and use the system.

4.1.2 Stimulus/Response Sequences

First the user will be asked to register. If the user is already registered then it will automatically be logged in.

4.1.3 Functional Requirements

In the case of invalid credentials the Voter would not be granted access for voting.
REQ-1: Login Ids
REQ-2: Password

4.2 Login

4.2.1 Description and Priority

This feature allows Voter to login. The registered Voter with a Login Id and password will allow access to use the Online Voting.

4.2.2 Stimulus/Response Sequence

First the user will be asked to login. If the user is already registered then it will automatically be logged in.

4.2.3 Function Requirements

In the case of invalid credentials, the user would not be granted access to the software.
REQ-1: Login Id
REQ-2: Password

4.3 Show the Result

4.3.1 Description and Priority

This feature allows voter to check the result of election.

4.3.2 Stimulus/Response Sequence

After declaring the result by admin every voter can check the result of online voting after login.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

The software is expected to have reasonably short response time. It should be able to log-in and feed the voter with new pages on request with a response time of the order of a few seconds.

5.2 Safety Requirements

- In order to prevent data loss in case of system failure, the result of votes that were polled till then have to be saved in the database, for the system to resume the counting process on reboot.
- The EA should set up his system time appropriately for the election process to start at the correct time.
- In case the EA detects any security lapse in the system, he should able to shutdown the server and close all connections immediately while preserving the already polled votes.
- The system should be capable of gracefully recovering from earlier crashes and continuing the voting process.

5.3 Security Requirements

- The system should provide basic security features like password authentication and encrypted transactions.
- All the passwords generated and communicated to the users should be stored in the server only in an encrypted form for login management to prevent misuse.
- Serial attacks should be avoided by maintaining a minimum time gap between successive invalid login attempts.

5.4 Software Quality Attributes

The Quality of the System is maintained in such a way so that it can be very user friendly to all the users. The software quality attributes are assumed as under:

- Accurate and hence reliable.
- Secured.
- Fast speed.
- Compatibility.

5.5 Business Rules

This Project may have use of the Election for any society, college and company. As the project is part of the development of the open-source project code, documents, or other materials used for this project cannot be used for commercial purposes. However, others wishing to further develop the code after the project's completion are free to do so.

6. Other Requirements

Currently there are no other known requirements for the project; however, this may change in the event of unforeseen circumstances encountered during the duration of the project.

Appendix A: Glossary

Appendix B: Analysis Models

Appendix C: To Be Determined List